

Guidelines for reviewing of conference contributions

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Introduction

In 2006 the Division on Chemical Education of EuChemS has published a ‘Handbook for Organisers of European Conferences’¹. In addition to this handbook, this paper will present guidelines for reviewing and acceptance of proposals, building on experiences from previous conferences. Although the division is responsible for the organisation of two biannual conferences: ECRICE (European Conference on Research in Chemical Education) and EuroVariety (European Variety in Chemical Education), the scope of this paper is broader: it is intended to be used by organisers of other European (chemistry (education)) conferences as well.

The guidelines provided in this document aim at ensuring uniform and transparent procedures for the acceptance of proposals. This paper will give support to local organizers and tries to avoid that every local organisation will ‘reinvent the wheel’.

The purpose of reviewing

The basic question that we should ask ourselves is about the aim of reviewing the proposed contributions. In theory, the answer is simple – to provide the appropriate scientific level – but details are strongly dependent on the aim of the conference itself. The DivCEd Handbook for Organisers of European Conferences (2006) says: “At one extreme it may be the annual congress of a chemical society, aimed at presenting the results of our latest research to colleagues, and establishing and developing cooperation with people having similar interests. Alternatively, we may be thinking of a one off international summer school for postgraduate students in a given field, the aim of which is to develop communication skills, provide additional knowledge, and place research into wider contexts”.

It is therefore necessary to consider whether performing the review process in case of a particular conference should be rather a summative evaluation (as it is in case of a conference for a narrow circle of specialists) or a formative one (in case of a conference addressed to the wide range of researchers and practitioners from different countries with various experiences). In the latter case, the exhaustive feedback for the potential participant is of an immense importance as it might help to improve the upcoming presentation.

Criteria for acceptance of papers depend on the scope of the conference. For a scientific conference, quality criteria are similar to criteria used by scientific journals (scientific relevance and originality, rigor of methodology, evidence for conclusions). For more practice-oriented conferences, criteria are based on the relevance of products for practice (originality,

¹ This document can be found at: <https://sites.google.com/site/euchemsdivced/publications>

clear description of aims and practices, description of evaluation procedures and results, implications).

From the organizers' point of view, the process of abstracts reviewing is used for:

- Acceptance or rejection of a proposal for oral presentation or poster presentation
- Assignment of contributions to proper thematic session
- Possibly the selection of keynotes

The organization of the reviewing process

Before the call for papers is published on the conference website, the local organizers have to take some decisions, which have their impact on the reviewing process.

Selection of the Scientific Committee

The local Organizing Committee will invite members to the Scientific Committee. In a number of cases the Scientific Committee members are appointed or proposed by the organization that is responsible for the conference. The Scientific Committee will give advice to the organizers and will likely decide about acceptance of proposals and sometimes review proposals.

Selection of reviewers

The Organizing Committee or Scientific Committee will invite colleagues for reviewing conference contributions.

When selecting reviewers following should be taken into account:

- Reviewers should have sufficient time to read a certain number of abstracts in a given time period
- Reviewers should have expert knowledge of a particular field (generally evidenced by publications in the field)
- Reviewers should be sufficiently proficient in the use of English language

Reviewers should have patience and motivation to encourage and help the authors, even in issues related to language. Therefore, it is advisable to ask potential reviewers (as is usually done by the organizing committee of the conference) on which specific topics they feel to be experts. The reviewers must also be informed about the number of abstracts they are going to evaluate and the deadline for completing their evaluation.

The number of reviewers depends on the number of proposals that is expected to be submitted. It is usual that each proposal will be reviewed by two persons. A number of four to eight papers per reviewer is generally acceptable. When dealing with large numbers of papers, it is recommended to give the reviewers more papers instead of extending the number of reviewers. More reviewers leads to the risk that papers will be reviewed differently.

The nature of the conference contributions

The organizers and scientific committee have to decide about the nature of contributions for the conference. Except for the invited contributions (plenary, keynote lectures), this will generally include oral presentations and posters (both on scientific research and good practice). Other contributions may be considered, like workshops and round table discussions. For the reviewing process, it is important to note that different types of contributions will lead to different criteria for acceptance.

Another issue, already addressed above, is about the acceptance of research papers and more practice-oriented contributions. These two kinds of papers require different criteria for acceptance, and, possibly, different reviewers.

Publication of conference papers

Conferences differ very much in nature and scope and for this reason only very general things can be said about the way the review process is organised. One example of such a procedure is that conference attendants send in a proposal, including an abstract (100-200 words). The proposal, with a typical length of a few pages, is used to evaluate the quality of the contribution. Organizers should indicate which information of the contribution will be published before, during and after the conference. Abstracts may be published in the conference programme or in a book of abstracts (nowadays, often online). For many attendants, it will be interesting if papers are published in proceedings or on the conference website. The opportunity of publication of proposals may influence their quality. For some conference participants it may seem as a waste of time to write a 3- or 5-pages long proposal only for the purpose of the review process, with no chance of publication.

Guidelines for proposals

For proper review procedures it is necessary that strict guidelines for proposals should be provided. In the DivCED Handbook for Organisers of European Conferences was written: “Clear guidelines need to be provided on abstract submission, including the required structure, whether or not a bibliography is required, the level of detail expected and, of course, the deadline for submission. This can greatly assist inexperienced delegates. The maximum length of each abstract should be specified”.

An important issue is about the nature of papers to be submitted. For example, some conferences operate at the interface of research and practice. The organizers and Scientific Committee have to be clear about the scope of the conference: What should be expected from research papers and what should be expected from papers about good practices or innovation? Both kinds of papers require different guidelines and different review criteria.

Examples of guidelines are following: form of the paper (length, structure, number of references, font type, headings), content of the paper (criteria for the background and relevance of the study, methodology, findings, discussion and conclusions). See appendix 1 for an example of a sheet with guidelines.

Papers should be made anonymous for reviewers. In some cases, especially in conferences for young researchers, reviewers might be asked to be put in touch with the author to give support to improve the paper.

Deciding about the procedure for reviewing and revision of proposals

Reviewers should be kept to a strict time limit. Based on the reviews, the organizers or Scientific Committee members take a decision on the paper. If reviewers' judgments on the quality of the paper deviate, a third reviewer may be consulted. Authors will be informed about the decision. This decision may be: acceptance as oral presentation, acceptance as poster, rejection. Resubmission of rejected proposals may be considered, but generally this is not possible because of time constraints.

Reviewers' recommendations and comments may be used by the authors for improving their presentation at the conference. Authors may also be requested to revise their accepted proposals, but this only makes sense if proposals are published. Sometimes, reviewers are asked to give support to the authors of a proposal (in this case, the anonymity of authors and reviewers is abolished).

Setting up a system for processing of proposals and reviews

An important issue is the use of (commercial) software to organize the reviewing process. These tools provide a database to which papers and reviews can be uploaded and downloaded. This will help the organisers to manage the review and acceptance procedures more easily. Further, this software enables the set-up of the conference programme, the organisation of sessions, the assignment of session chairs and discussants, etc. Examples of available software tools are, for instance, *Conftool* (www.conftool.net) or *EasyChair* (www.easychair.org). These tools cost money, but simple versions are sometimes free.

Guidelines for reviewers

Criteria for reviews

Review forms are provided by the conference organisation. These will ask reviewers to score the quality of the proposals, and give additional comments. See appendix 2 for an example of a review sheet, and appendix 3 for a more extensive list of review criteria.

Criteria may include:

- Relevance (novelty, originality)
- Scientific quality (literature, research questions, research methods, data-analysis, conclusions, limitations). For practical contributions: literature, description of practice, evaluation, implications.
- Quality of the text (organisation, style, spelling, clarity)

Additional instructions for reviewers

Additional instructions may be given to reviewers about the way they comment on the quality of the papers.

- Reviewers should be encouraged to give additional comments to provide feedback to authors. It is advisable to ask the reviewers to complete all the fields in the sheet, as their remarks may be helpful in improving the presentation.
- Reviewers should be requested to give concrete recommendations (not: “the introduction section needs to be improved”, but “the introduction section should give information about the reasons why this study has been conducted”). Also, on the use of language, reviewers should propose concrete changes and not general recommendations like “the paper needs editing by a native English speaker”.
- Reviewers should be aware of differences in research traditions and take local circumstances into account. Although science is one and the same, the conditions of its practising are strongly diversified in different parts of the world. For example, the fact that a proposal lacks the key literature required by organizers might indicate a negligence of this point by an author, but might also be a result of limited access to the literature. In such cases, a reviewer should suggest what additional papers the conference participant should read and consider in his/her work.
- Reviewers should be aware that the level of English language does not always reflect the level of the proposal. The language barrier should not lead to the exclusion of scientists only because of not being native speakers. Of course, the

sloppy language may be a result of the laziness of an author. However, the reviewers should be aware of the fact, that the lack of language skills is not only a matter of time devoted to practicing the foreign language, but also of history, traditions and the financial resources of particular country or university. Therefore, reviewers should consider the quality of the paper independent from the level of English, and give suggestions for improving the English language of the paper.

Summarizing, reviewers should take the role of a coach and provide positive criticism and support, especially for those authors coming from countries without strong research traditions on chemical education. A good reviewer is willing to share his knowledge with the authors by providing numerous and detailed comments.

Appendix 1: Example of format for proposals

TITLE (Times New Roman,12 pts, capital, bold)

Author(s) (Times New Roman,11 pts)

Department, University, Country (Times New Roman,11 pts)

Abstract (Times New Roman,11 pts)

Max 150 words

Text of proposal (Times New Roman,11 pts)

Use following sections: Introduction, Methods, Results, Discussion and Conclusions, Reference

Max 1000 words

References (Times Roman,10 pts)

Max 10 references

Appendix 2: Example of reviewing sheet

Topic:

Title:

Assessment criteria	very good	good	average	poor
1. Relevance of the paper to the section and conference theme				
Comments				
2. Theoretical framework and rationale Is the area of interest clearly explained? Is the relevant literature from the field presented? Are research questions clearly stated?				
Comments				
3. Originality Are findings new to the field?				
Comments				
4. Research design and methodology of data analysis (if applicable) Does the research design relate to the research questions? Does data analysis guarantee valid conclusions?				
Comments				

<p>5. Research findings (in the case of "research" paper) or description of good practice examples (in the case of "practice" paper)</p> <p>Is data analysis transparent?</p> <p>Are results clearly presented?</p> <p>Do the data provide support for the conclusions?</p>				
Comments				
6. Implications for further research, practice or policy				
Comments				
<p>7. Organization and structure</p> <p>Is the paper well organized?</p> <p>Is language correctly used?</p> <p>Clear style of writing?</p> <p>Appropriate bibliography (conventions correctly used)?</p>				
Comments				

A form of presentation as suggested by the Reviewer (please underline)

- Oral presentation
- Poster
- Workshop

Overall recommendation (please underline):

1. Definitely Accept
2. (Major or minor revisions recommended)
3. Accept if programme allows
4. Reject

Appendix 3: Guidelines for reviewers/editors ²

The following contains a list of points, which could be taken into account when reviewing a conference proposal.

Title and subtitles

- Referring to the field?
- Concise?
- Self-explaining?
- Corresponding with focus?
- Giving the 'story' coherence?

Problem statement

- Research question (= sentence with question mark) and aim made explicit?
- Theoretically and practically embedded?
- Novelty and originality; added value?
- Kind of research question: descriptive, explanatory or developmental?
- Specific about key concepts?

Methodology

- Research paradigm and research type made explicit and justified?
- Do the research methods allow for a valid answer to the research question?
- Line of reasoning: empirical study in line with theoretical starting points?
- Specific about data collection and analysis?
- Quality standards (validity, reliability) taken into account?
- Linking learning outcomes to learning process?
- Examples of items, categories, etc. given?

Results

- Quantitative: statistically sound?
- Qualitative: illustrative or exemplary quotes; lines of argument?
- Substantial; deepening our understanding?
- Balance of verbal and graphic presentations
- Correctness of captions?

Conclusions

- Matching research question(s)?
- Line of reasoning: directly following from results?
- Justified claims?

² This appendix is based on a document used by ERIDOB conference (European Researchers in Didactics of Biology).

Recommendations

- Matching research aim?
- Specific about practical implications?

Miscellaneous

- Completeness, coherence and consistence of the 'story'?
- Balanced bibliography?
- Accessible vocabulary?
- Critical reflection on the applied methodology?
- Correct English